



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/527,076

01/23/2006

Ariel Kushmaro

KUSHMARO1

4743

1444 7590 02/09/2009  
BROWDY AND NEIMARK, P.L.L.C.  
624 NINTH STREET, NW  
SUITE 300  
WASHINGTON, DC 20001-5303

EXAMINER

SRIVASTAVA, KAILASH C

ART UNIT

PAPER NUMBER

1657

MAIL DATE

DELIVERY MODE

02/09/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/527,076	<b>Applicant(s)</b> KUSHMARO ET AL.	
	<b>Examiner</b> Kailash C. Srivastava	<b>Art Unit</b> 1657	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 19 November 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-5 and 18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                       | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>03/09/2005 &amp; 09/14/2006</u> .                             | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

1. Response and amendment filed 19 November 2008 to the Office Action mailed 14 October 2008 is acknowledged and entered.

### ***Restriction/Election***

2. Express election without traverse of Group I, encompassing original Claims 2, 5 and 18 and amended Claims 1 and 4 filed 19 November 2008 in response to the Election/ Restriction Requirement in the Office Action mailed 14 October 2008 is acknowledged and entered. Since said election is without traverse, the restriction requirement is deemed proper and is made FINAL.

As applicants affirm in the response filed 19 November 2008, Claims 1-5 and 18 are the remaining Claims in the application.

### **Claims Status**

3. Claims 6-17 and 19 have currently been cancelled as a result of Election to Restriction Requirement in the Office Action mailed 14 October 2008 and amendment filed 19 November 2008.

4. Claims 1 and 4 have currently been amended.

5. Claims 1-5 and 18 are under Examination and are examined on merits.

### **Priority**

6. Claim for Foreign priority under 35 U.S.C. § 119 (a-d) to PCT/IL03/000725 equivalent of PCT/US03/91024 filed 03 September 2003 is acknowledged.

7. Please note, priority to foreign application, Israel 151660 filed 09 September 2002 has been claimed, however, a certified copy of said document is missing from the application. Thus, priority benefit to, Israel 151660 filed 09 September 2002 is not awarded.

### **Information Disclosure Statement**

8. Information Disclosure Statements filed 09 March 2005 and 14 September 2006 respectively are acknowledged, entered, made of record, considered and duly signed sheets of appropriate USPTO form are enclosed with the instant Office Action.

### **Objection to Specification**

9. The specification is objected to because Line one of first page of specification, in its present form does not properly cite the application priority data. Please cite at the first line of the first page of the specification that the instant application Claims priority to PCT/IL03/000725 equivalent of PCT/US03/91024 filed 03 September 2003.

10. 35 U.S.C. §112, first paragraph, requires the specification to be written in "full, clear, concise, and exact terms." The specification is replete with terms, which are not clear, concise and exact. The specification should be revised carefully in order to comply with 35 U.S.C. §112, first paragraph. Examples of some unclear, inexact or verbose terms used in the specification are: e.g., Page 5, line 23, "1/10<sup>2</sup>", Page 5, line 24, "1/10<sup>6</sup>" that are not recited in the art-recognized/established language. The examiner suggests that the applicants carefully revise the specification including the abstract to make the specification clearly comprehensible. Applicants are warned to be careful to not add any new matter while revising the application for corrections to eliminate inexact or verbose terms.

Examiner has not checked the entire specification to determine the presence of all possible minor errors. Applicants' cooperation is requested in correcting any errors of which applicant may become aware in the specification. Applicants are warned to be careful to not add any new matter while revising the application for corrections to eliminate any verbose or incorrect terms/language.

### **Claim Objections**

11. Claims 1-2 and 4-5 are objected to for following reasons:
- At claim 1(v), Line 5, words polysulfone and epoxy have been repeated; and
  - at Line one of each one of Claims 2 and 4-5, before the word "wherein" a --, -- should be inserted.

Appropriate correction is requested.

### **Objection to Drawings**

12. The drawings are objected to because the description of Figure 2 is not according to art-accepted/established terminology. The art-establisher terminology for "Scanning electron microscope photograph" is "scanning electron micrograph". Figure 3 is unclear and difficult to understand. Corrected

drawing sheets in compliance with 37 C.F.R. §1.121(d) are required in reply to the instant Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled “Replacement Sheet” in the page header (as per 37 C.F.R. §1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicants will be notified and informed of any required corrective action.

### ***Claim Rejections - 35 U.S.C. §112***

#### ***Second Paragraph***

13. The following is a quotation of the second paragraph of 35 U.S.C. § 112:

*The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.*

14. Claims 1-5 and 18 are rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

- The limitation, “pure clone of said unculturable microorganism at Claim 1 (viii), Lines 2-3 lacks sufficient antecedent basis because the preamble of Claim 1 breathing life and meaning in to said Claim 1 is only for isolating and culturing an unculturable microorganism.
- Claim 5 encompasses “range within range”, i.e. broad limitation followed by a narrow limitation.
- A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. Note the explanation given by the Board of Patent Appeals and Interferences in Ex parte Wu, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. Ng life and meaning in to the claim

is only to “isolate” 1989), as to where broad language is followed by “such as” and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, claim 5 recites the broad recitation, for example, 0.1 mm or less to about 5mm”. The limitation 0.1 mm or less is comparatively narrow range to 0.1 mm to about 5 mm. Examiner suggests that the broad claim 0.1 mm or less to about 5 mm be split as dependent claims with narrower limitations, e.g., 0.1 mm to 5 mm and then an independent claim for the limitations 0.1 mm or less. Furthermore, the limitation 0.1 mm, or less lacks metes and bounds because less than 0.1 mm can be zero and in that case the claimed invention be non-functional.

- The recitation “about” in Claim 5 renders said claim unclear and vague because of the stretchful meaning for the word, “about”. It is not clear how close the limitation is to the number “5 mm” for an infringer to overcome said limitation. See, e.g., M.P.E.P. 2173.05(b) [R-6] *Relative Terminology and Amgen, Inc. v. Chugai Pharmaceutical Co.*, 927 F.2d 1200, 18 USPQ2d 1016 (Fed. Cir. 1991).

All other claims depend directly, or indirectly from the rejected claim 1 and are, therefore, also rejected under 35 U.S.C. § 112, second paragraph for the reasons set forth *supra*.

### ***Claim Rejections - 35 U.S.C. § 103***

15. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

*(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.*

16. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. § 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 C.F.R. 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the

examiner to consider the applicability of 35 U.S.C. § 103(c) and potential 35 U.S.C. § 102(f) or (g) prior art under 35 U.S.C. § 103(a).

17. Claims 1-5 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kaeberleine et al. (Isolating "Uncultivable" Microorganisms in Pure Culture in a Simulated Natural Environment, Science, Volume 296, Pages 1127-1129, 2002 as cited in the IDS filed on 14 September 2006).

Claims 1-5 and 18 recite a method to cultivate hitherto uncultivable microorganisms through the steps of (i) taking a marine, aquatic or environmental terrestrial sample, (ii) microscopically counting the initial (iii) encapsulating said sample in a natural gel to make spheres of <0.1 mm to 5.0 mm in diameter, (iv) surrounding said gel encapsulated sample with a layer of a synthetic polymer, (v) incubating the encapsulated sample in the same environment from where the sample was obtained, (vi) cutting the spheres to scan for microbial colony(ies) and (vii) recultivating the microorganism by repeating the steps iii-Vii, and (viii) isolating the microorganism.

Kaeberleine et al., beneficially teach a method to culture/cultivate unculturable microorganisms by rationalizing to provide said microorganisms the chemical ingredients present in the environment from where terrestrial/environmental samples inhabiting said microorganisms were obtained, placing the collected samples comprising said microorganisms in specific chambers simulating the habitats from where samples inhabiting said microorganisms were obtained and monitoring the development of microbial cells and colonies. To achieve this, Kaeberline et al., collected samples, separated the microorganisms from the sediment particles, diluted said samples appropriately, mixed said samples with agar prepared in seawater, encapsulated said samples in another membrane (Page 1127, Column 1, Line 26 to Page 1127, Column 2, Line 22; Figure 1A) and placed the sealed materials on the sediment from where samples were collected,, or a marine aquarium (Figure 1B). Upon screening observation of said materials after 1 week a large number of microcolonies were observed. In series of recovery experiments, fractions that formed colonies samples were obtained and showed  $40 \pm 13\%$  recovery of cells Page 1127, Column 2, Lines 24 to Page 1127, Column 3, Lines 31: Figure 2B). Note, Kaeberline et al., intrinsically teach initial counting of the microbes in the collected sample because they calculate and present % recovery of cells which would not have been possible without making said observation prior to putting the microbial samples for cultivation. Furthermore, Kaeberleine et al particularly teach that the microbial cells to be bacteria/fungi (Figure 2B). Some of the conditions and materials instantly claimed may differ from those that Kaeberline et al., teach. However, a judicious selection of equivalent conditions and components and the result-effective adjustment of particular conventional working conditions (e.g., growth medium components, pH, temperature, incubating conditions and size of beads) is deemed merely

a matter of judicious selection and routine optimization which is well within the purview of the skilled artisan.

From the teachings of the references cited *supra*, it is apparent that one of ordinary skill in the art would have had a reasonable expectation of success in producing the claimed invention. Therefore, the invention as a whole was *prima facie* obvious to one of ordinary skill in the art at the time the invention was made, as evidenced by the references, especially in the absence of evidence to the contrary.

### Conclusion

18. For the above stated reasons, no Claims are allowed.

19. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Kailash C. Srivastava whose telephone number is (571) 272-0923. The examiner can normally be reached on Monday to Thursday from 7:30 A.M. to 6:00 P.M. (Eastern Standard or Daylight Savings Time).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dr. Jon Weber can be reached at (571)-272-0925 Monday through Thursday 7:30 A.M. to 6:00 P.M. The fax phone number for the organization where this application or proceeding is assigned is (571)-273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding may be obtained from the Patent Application Information Retrieval (i.e., PAIR) system. Status information for the published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (i.e., EBC) at: (866)-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/ Kailash C Srivastava/  
Examiner, Art Unit 1657

Kailash C. Srivastava  
Patent Examiner  
Art Unit 1657  
(571) 272-0923

02 February 2009  
/David M. Naff/  
Primary Examiner, Art Unit 1657